

REMARKS

This application has been reviewed in light of the Office Action of April 8, 2004. Claims 1, 3-6 and 8-11 are pending in the application. By the present amendment, claims 1, 6, and 9 have been amended. Claims 2 and 7 have been canceled without prejudice. No new matter has been added. The Examiner's reconsideration of the rejection in view of the amendment and the following remarks is respectfully requested.

By the Office Action, the Examiner objected to the drawings as not showing every feature as specified in the claims, namely "an array of resonant microcavity anodes" as claimed in claim 6. The Applicants respectfully disagree with the rejection.

FIG. 1 shows a microcavity anode 104 for a resonant microcavity anode (RMA) type field emission display (FED) device. The array of anodes is included in the layer 104 as can be seen from FIGs. 13a and 13b in U.S. Patent No. 5,804,919 to Jacobsen et al. (hereinafter Jacobson), which was incorporated by reference. FIG. 1 has been amended to show a portion of layer 104 as an array of anodes. Therefore it is respectfully submitted that the claimed feature of "an array of resonant microcavity anodes" is now presented in the FIGS. A new FIG. 1 and a marked-up version are submitted herewith showing dotted lines in anode layer 104 to show an array of anodes. Support is found in Jacobsen as referenced above. No new matter has been added. Reconsideration is respectfully requested.

By the Office Action, the Examiner objected to the specification as failing to provide antecedent basis for the claimed subject matter, namely "an array of resonant microcavity anodes on a second side of the vacuum". The Examiner is directed to the Brief Summary of the Invention, page 4, lines 15 through 20, which include the antecedent basis for claim 6, namely, "an array of resonant microcavity anodes on a second side of the vacuum". In addition, Jacobson, which is incorporated by reference, demonstrates the concept of an array for resonant microcavities as shown in FIGs. 12, 13a and 13b and described at col. 15 lines 23-42. The specification has been amended to state an array of anodes. Support for this exists in the Summary and in Jacobsen as referenced above. Reconsideration is respectfully requested.

By the Office Action, the Examiner objected to claims 2 and 7 stating the "an" before LCOS should be changed. Claims 2 and 7 have been canceled without prejudice. Reconsideration is respectfully requested.

By the Office Action, claim 6 stands rejected under 35 U.S.C. §102 (b) as being anticipated by U.S. Patent No. 5,804,919 to Jacobsen et al. (hereinafter Jacobsen).

The Examiner stated that Jacobsen teaches all of the claimed elements of claim 6. The Applicants respectfully disagree with the rejection.

Claim 6, now recites, *inter alia*, an illumination source for a LCOS projection system, including an array of resonant microcavity anodes on a second side on the vacuum cavity for generating light of a selected color, the array being arranged so that said light is projected through a LCOS device to produce the image of the selected color wherein said field emission display points are electron emitters used to excite the array of resonant microcavity anodes to exclusively generate light of said selected color to create an image using only the selected color.

Jacobsen provides a microcavity light system, which provides an image output. While Jacobsen does disclose a single light source for projection displays at col. 20 lines 60-62, Jacobsen fails to disclose or suggest an illumination source for a LCOS projection system, and further fails to disclose or suggest that the array of anodes is arranged so that a single color light is projected through a LCOS device to produce the image of the selected color and using the field emission display points as electron emitters exciting the array of resonant microcavity anodes to **exclusively** generate light of said selected color to create an image using only the selected color.

Jacobsen is silent as to the use of a LCOS imager or any imager for producing an image of a single color. The present invention advantageously provides the microcavity emitters as a light source for LCOS technology imagers to produce a new device, which does not suffer from the drawbacks of arc lamps of the prior art.

Since Jacobsen fails to disclose or suggest all of the elements of the present claim 6, claim 6 is believed to be in condition for allowance for at least the reasons stated. Claim 8 is also believed to be allowable due at least to the dependency from claim 6. Reconsideration of the rejection is earnestly solicited.

By the Office Action, claims 1 and 3-5 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,580,142 to Kurematsu et al. (hereinafter Kurematsu) in view of Jacobsen.

The Examiner stated that Kurematsu teaches images (light valves), which produce a single color image. The Applicants respectfully disagree with the rejection.

Claim 1, now recites, *inter alia*, a projection type display unit having a LCOS imager defining a plurality of controllable pixels, a light source for exclusively generating light of a single selected color, said light source arranged for transmitting said light through said imager to produce an image of the selected color; and a projector lens ... wherein said light source is comprised of a field emission device exciting a resonant microcavity anode with an active region, said active region having a phosphor disposed therein for emitting light of said selected color.

Kurematsu provides a projection system with a single white source (e.g., a metal halide lamp), which employs a complicated arrangement of mirrors, splitters and filters to separate out light components (See e.g., FIG. 3). Once components are split, light valves 1, 2 and 3 are employed to form color images; however LCOS imagers are not disclosed or suggested by Kurematsu, and would not be considered useful with the lamp of Kurematsu. In addition, Kurematsu does not disclose or suggest the use of a single color light source, nor a microcavity emitter light source. While Jacobsen provides a microcavity emitter, the cited combination of references taken as a whole fails to disclose or suggest at least a LCOS imager defining a plurality of controllable pixels, a light source for exclusively generating light of a single selected color, said light source arranged for transmitting said light through said imager to produce an image of the selected color; and a projector lens ... wherein said light source is comprised of a field emission device exciting a resonant microcavity anode with an active region, said active region having a phosphor disposed therein for emitting light of said selected color.

The combination of a single color source providing a single color image by using a LCOS imager is not disclosed or suggested by the cited combination of Kurematsu and Jacobsen. Since the cited combination fails to disclose or suggest the presently claimed elements, reconsideration of the rejection is earnestly solicited for at least the stated reasons.

By the Office Action, claims 2 and 9-11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kurematsu in view of Jacobsen and further in view of U.S. Patent No. 6,661,475 to Stahl et al. (hereinafter Stahl). The Applicants respectfully disagree with the rejection.

Claim 9, as amended, includes, *inter alia*, exciting an array of resonant microcavities configured for exclusively emitting light of a single selected color, and

projecting said light through a LCOS imager defining a plurality of controllable pixels to produce an image in the single selected color.

Stahl describes an arc lamp source LCOS imaging device as described in the prior art. As such, Stahl suffers from all the drawbacks of bulb lifetime and other issues as outlined in the Description of the Related Art of the present application. Stahl fails to cure the deficiencies of the Kurematsu and Jacobsen in that the cited combination does not disclose or suggest the novel combination of a LCOS imager, which is used with a resonant microcavity anode as a single color source to provide a single color image as recited in claim 9.

Since the combination fails to disclose or suggest the combination of elements of the present claim 9, claims 9-11 are believed to be in condition for allowance for at least the reasons stated. Therefore, claim 1, 3-6 and 8-11 are believed to be in condition for allowance for at least the stated reasons. Reconsideration of the rejections is earnestly solicited.

In view of the foregoing amendments and remarks, it is respectfully submitted that all the claims now pending in the application are in condition for allowance. Early and favorable reconsideration of the case is respectfully requested.

It is believed that no additional fees or charges are currently due. However, in the event that any additional fees or charges are required at this time in connection with the application, they may be charged to applicants' Deposit Account No. 07-0832.

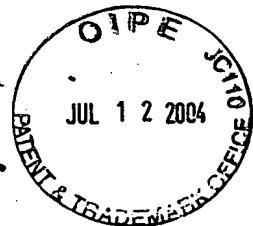
Respectfully submitted,

EUGENE MURPHY O'DONNELL ET AL.

By: 
Joseph J. Kolodka P.O.
Attorney for Applicants
Registration No.: 39,731
(609) 734-6816

Patent Operations
Thomson Licensing Inc.
P.O. Box 5312
Princeton, NJ 08543-5312

July 8, 2004



DRAWING AS ORIGINALLY FILED

Ser. No. 10/007,157

Amdt. Dated July 8, 2004

Reply to Office Action of April 8, 2004

Docket No.: PU010276

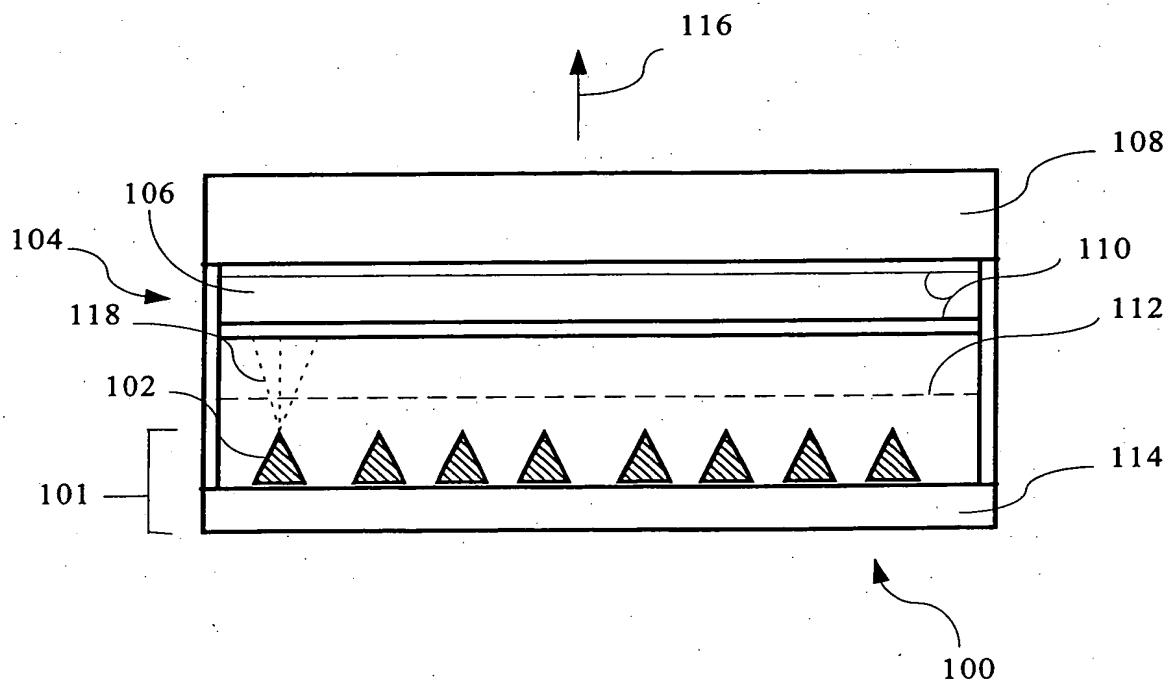


Fig. 1



Ser. No. 10/007,157
Amtd. Dated July 8, 2004
Reply to Office Action of April 8, 2004
Internal Docket No. PU010276
REPLACEMENT SHEET

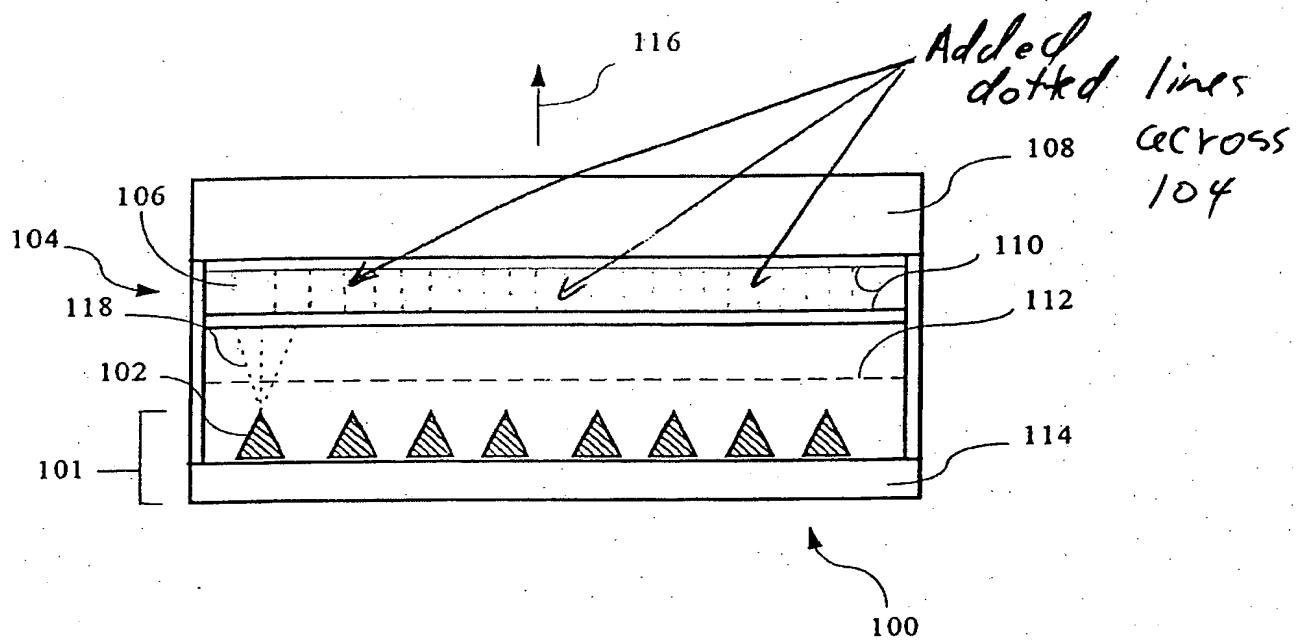


Fig. 1